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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,936	12/05/2006	Gilles Rocher	290721US6PCT	6783
22850	7590	06/13/2008		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER VANATTA, AMY B	
			ART UNIT 3765	PAPER NUMBER
			NOTIFICATION DATE 06/13/2008	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/580,936	<b>Applicant(s)</b> ROCHER ET AL.	
	<b>Examiner</b> Amy B. Vanatta	<b>Art Unit</b> 3765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 22-42 is/are pending in the application.
- 4a) Of the above claim(s) 34-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>05302006</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Group I, claims 22-33, in the reply filed on 3/24/08 is acknowledged.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 22, 23, 26, 28, and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Gruget (US 3,608,166).

Gruget disclose a method of making a mat including glass fiber; see col. 1, lines 56-58 and col. 3, lines 13-15. The method includes deposition or projection of threads including glass fibers onto a traveling belt to form a lap driven by the belt, as claimed; see col. 2, lines 42-49. A step of needling the lap is disclosed; see col. 3, lines 28-29. The needles are passed through the lap as claimed, being displaced vertically at a speed at which they penetrate the web, so as to entangle the fibers. Gruget discloses that the number of piercings (and thus the "stroke density") is about 12 to 15 piercings per square centimeter (col. 3, lines 28-32), which falls within the range recited in claim 22 and claim 23. The needles are bearded (see barbs 4). As to claim 28, Gruget

discloses that the barbs may be directed toward the support (col. 2, lines 14-16). The needles clearly are fastened to a support, as they inherently require a support in order to function as disclosed and as shown in Figs. 1-2. The glass fibers are formed by attenuation, which forms continuous threads as in claim 26 (col. 3, lines 13-16). No binder is used, as in claim 33.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 22-25, 27-31, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nieminen et al (US 5,458,960) in view of Gruget (US 3,608,166).

Nieminen et al disclose a method of making a mat including glass fiber, comprising deposition or projection of threads including glass fibers onto a traveling belt to form a lap driven by the belt, as claimed; see col. 8, lines 46-52. Also see col. 2, lines 25 and 38, and col. 3, lines 4-14 disclosing the use of glass fiber which forms "thread" to the extent claimed. A step of needling the lap is disclosed; see col. 3, lines 24-43 and col. 9, lines 19-32. The needles are passed through the lap as claimed, being displaced vertically at a speed at which they penetrate the web, so as to entangle the fibers. Nieminen discloses that the needling density (and thus the "stroke density") is in the range of 2 to 20 punches per square centimeter (col. 3, lines 38-42), which falls

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within the range recited in claim 22. The needles are not disclosed as being bearded, however bearded needles are conventional in the art. Gruget discloses the use of bearded needles for needling a web of glass fibers; see col. 1, line 58, col. 2, lines 3-16, and barbs 4 on needle 3, which forms a "bearded" structure. Barbed or bearded needles are advantageous in that they facilitate movement of and entanglement of fibers by pulling fibers with the barbs. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use bearded needles in the method of Nieminen in order to facilitate movement of and entanglement of fibers, as shown by Gruget. As to claim 28, Gruget discloses that the barbs may be directed toward the support (col. 2, lines 14-16). Such a structure is conventional in order to pull fibers in their ascending movement, as taught by Gruget. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use bearded needles having beards directed towards the support in the method of Nieminen in order to pull fibers in the ascending movement of the needles, as taught by Gruget.

As noted above, Nieminen discloses a needling density (stroke density) of 2-20 strokes per  $\text{cm}^2$  however the density is not disclosed as at most 15 or 10 strokes per  $\text{cm}^2$  as in claims 23 and 24. Also, the density is not disclosed as being at most 2 strokes per  $\text{cm}^2$  as in claim 25. It is within the ordinary skill in the art, however, to determine the optimal number of strokes per  $\text{cm}^2$  through routine experimentation, depending upon the desired end properties of the product. It would have been obvious to one having ordinary skill in the art at the time the invention was made to needle the lap in the method of Nieminen with a stroke density within the ranges recited in claims

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23-25, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 27, Nieminen discloses a step of using cut glass fiber, which forms cut threads as in claim 27 (see col. 3, lines 9-11). Nieminen discloses that the mat does not contain any binder (col. 2, lines 46-48 and col. 7, lines 63-64), as in claim 33.

Nieminen does not disclose the speed of advance of the lap, and therefore does not disclose a speed within the ranges of 2-35 m/min, 8 m/min or greater, or 20 m/min or less, as in claims 29-31. It is within the ordinary skill in the art, however, to determine the optimal speed of advance of the web through routine experimentation, depending upon the materials used and the desired end properties of the product. It would have been obvious to one having ordinary skill in the art at the time the invention was made to advance the lap in the method of Nieminen at a speed within the ranges recited in claims 29-31, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

6. Claims 24, 25, and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gruget (US 3,608,166).

Gruget discloses a method of making a mat including glass fiber as claimed. The stroke density is disclosed as 12-15 piercings (strokes) per  $\text{cm}^2$ ; see col. 3, lines 29-31. The density is not disclosed as at most 10 strokes per  $\text{cm}^2$  as in claim 24. Also, the

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density is not disclosed as being at most 2 strokes per  $\text{cm}^2$  as in claim 25. It is within the ordinary skill in the art, however, to determine the optimal number of strokes per  $\text{cm}^2$  through routine experimentation, depending upon the desired end properties of the product. It would have been obvious to one having ordinary skill in the art at the time the invention was made to needle the lap in the method of Gruget with a stroke density of at most 10 strokes per  $\text{cm}^2$ , or at most 2 strokes per  $\text{cm}^2$ , since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Gruget does not disclose the speed of advance of the lap, and therefore does not disclose a speed within the ranges of 2-35 m/min, 8 m/min or greater, or 20 m/min or less, as in claims 29-31. It is within the ordinary skill in the art, however, to determine the optimal speed of advance of the web through routine experimentation, depending upon the materials used and the desired end properties of the product. It would have been obvious to one having ordinary skill in the art at the time the invention was made to advance the lap in the method of Gruget at a speed within the ranges recited in claims 29-31, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

7. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gruget (US 3,608,166) in view of Dilo et al (US 5,732,453).

Gruget discloses a method as claimed, however the needles are not disclosed as describing an elliptical movement, as in claim 32. Dilo discloses a method and apparatus for needling in which the needles are moved in the machine direction as well as the vertical direction, with the needles moving in the machine direction while extending through the substrate such that they travel in an elliptical path (col. 1, lines 54-67 and col. 7, lines 38-59). Such needle movement is well known in the art. Dilo teaches that this needle movement permits increased processing speeds (i.e. a high feed of the web per needle bar stroke) due to the movement of the needles in the machine direction (col. 1, lines 35-51) during penetration of the web. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a needle loom in the method of Gruget which provides needle movement in both the vertical and horizontal directions such that an elliptical needle path is formed, in order to permit higher processing speeds without damaging the web, as taught by Dilo.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy B. Vanatta whose telephone number is 571-272-4995. The examiner can normally be reached on Monday through Thursday.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Welch can be reached on 571-272-4996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Amy B Vanatta/  
Primary Examiner  
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